Astron STREAK

- 2000 FT. FLIGHTS
- COMPETITION DESIGN

SKILL LEVEL 1

1—Beginner 2—Intermediate 3—Craftsman 4—Advanced 5—Expert

SPECIFICATIONS

Length 5.6'' (14.2 cm.)	Weight 0.1 oz. (3 g.)
Body Dia. 0.720'' (18.3 mm.)	Featherweight Recovery

RECOMMENDED ENGINES

1/2A6-4 A8-5 B6-6 C6-7

Use 1/2A6-4 for first flights. Engines and launcher not included.

K-4
#1204

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ASSEMBLE YOUR ASTRON STREAK

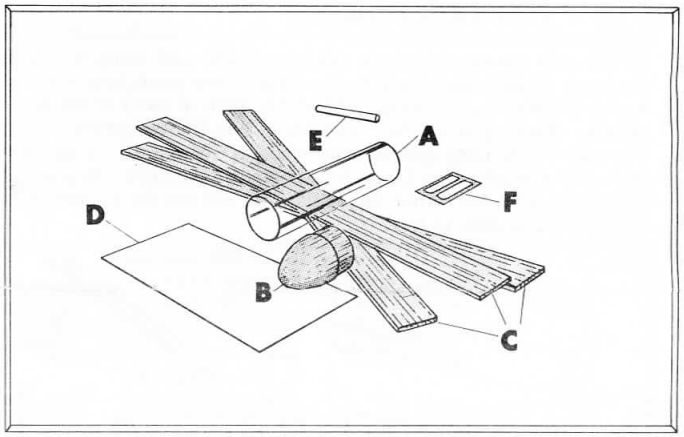
The Astron Streak is a high performance model rocket designed especially for competition use. This model employs the featherweight recovery system in which the rocket simply expells its engine at peak altitude. The rocket returns to earth safely because it is very light and has a relatively high frontal area--its force on landing is approximately equal to that of a one ounce weight dropped from ten inches above the ground. The engine returns in a safe manner since it is not stable and the drag on a tumbling object is quite high.

The Streak obtains its high performance by incorporating a super-light body tube and low drag design. The model uses few parts and is highly reliable. These instructions have been written to allow the builder two alternatives in the final design of the model--a sport version and a competition version.

Parts

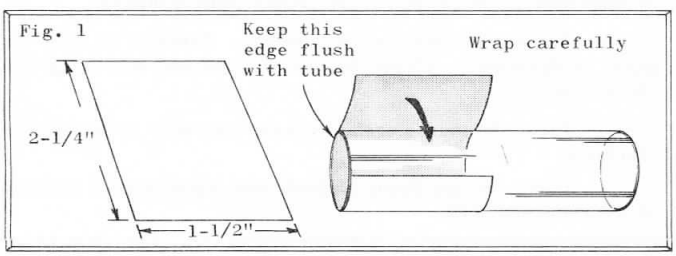
The Astron Streak kit consists of the following parts as shown in the drawing at right:

A) 1 Mylar Body Tube--Part #BT-10H
B) 1 Balsa Nose Cone--Part #BNC-10A
C) 3 Sheets Balsa Fin Stock--Part #BFS-20B
D) 1 Sheet Paper Reinforcing--Part #PRM-1A
E) 1 Launching Lug--Part #LL-2A
F) 2 Tape Strips--Part #TD-2B

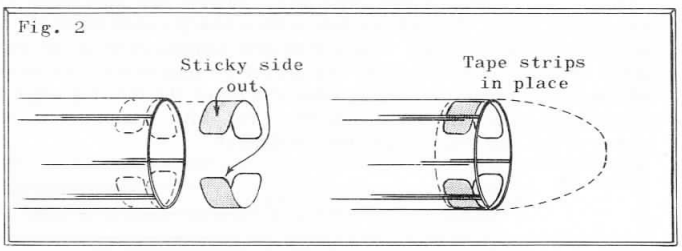


In addition to these parts you will also need some white glue, a modeling knife or single edge razor blade, sandpaper, sanding sealer and paint or dope. Read the entire instructions before starting construction. When building the model check off each step as it is completed.

☐ (1) The fins cannot be glued directly to the body since most glues will not stick to the mylar plastic. To get around this a strip of self-adhesive paper is attached to the body and the fins are glued to it. First measure and cut the paper reinforcing material to 1-1/2" by 2-1/4". Carefully strip the protective backing from the sheet and apply it to the outside of the tube at one end as shown in fig. 1. Be sure that the adhesive goes on straight and that the edge of the paper is even with the end of the tube. Once the adhesive has been set in place press it tightly against the tube surface. Do not attempt to remove it after it has been applied.



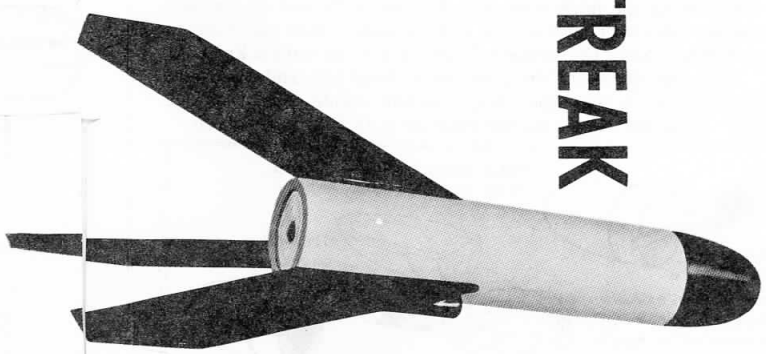
☐ (2) Remove one of the tape strips from its backing sheet and apply it to the inside of the body tube at the opposite end from the large adhesive piece as shown in fig. 2. The long edge of the strip should be even with the end of the tube. Apply the other tape strip at the same end of the tube--on the inside and directly opposite the first. When these strips are in place they will match the surface on the nose cone which fits inside the tube.



Sport Version

82,815

☐ (3) Cut out fin pattern A. Lay it on the balsa fin stock and



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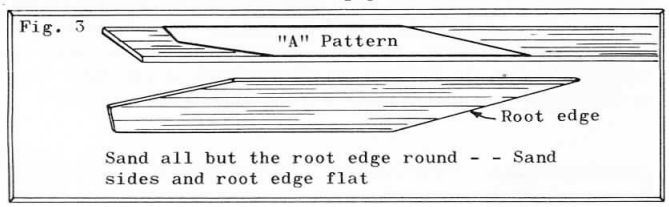
trace around it with a ball point pen. Repeat the operation for two more fins. Cut out the fins with a sharp modeling knife or single edge razor blade. Using fine grit sandpaper sand the root edge of each fin so it is flat and perfectly square with the sides of the fin. Round the other edges of the fins and smooth the whole fin with extra fine sandpaper.



☐ (4) Cut out the body tube marking guide and wrap it around the rear of the body tube with the joint in the guide over the joint in the reinforcing material. Mark the tube at each of the arrow points. Apply glue to the root edge of one fin and press it onto the rear of the body exactly over one pair of marks. Sight down the body and align the fin so it is perfectly straight. Repeat this operation with the other two fins. Do not set the rocket on its fins while the glue is wet.

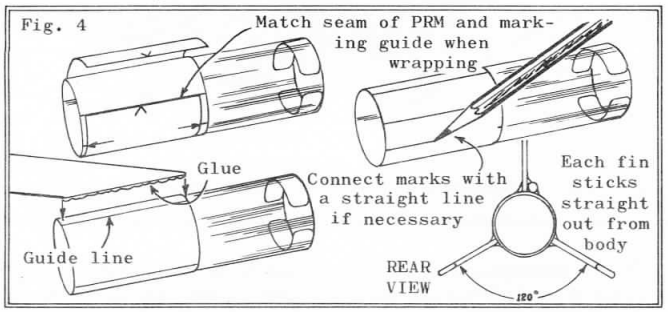
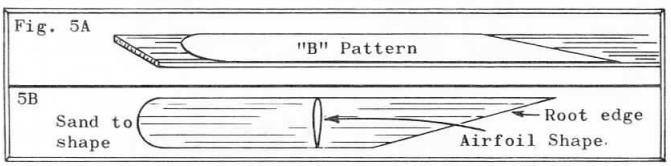


Fig. 4
Match seam of PRM and marking guide when wrapping
Glue
Connect marks with a straight line if necessary
Each fin sticks straight out from body
Guide line
REAR VIEW
120°

COMPETITION VERSION

☐ (3) Cut out fin pattern B. Lay it on the balsa fin stock and trace around it with a ball point pen. Repeat the operation for two more fins. Cut out the fins with a sharp modeling knife or single edge razor blade. Using fine grit sandpaper sand the root edge of each fin so it is flat and perfectly square with the sides of the fin. Round the leading edge and taper the trailing edge of each fin to match the airfoil shown in fig. 5B. Smooth down all sides of the fins with extra fine sandpaper.



☐ (4) Cut out the body tube marking guide and wrap it around the rear of the body tube with the joint in the guide over the joint in the reinforcing material. Mark the tube at each of the arrow points. Apply glue to the root edge of one fin and press it onto the rear of the body exactly over one of the marks. Sight down the body and align the fin so it is perfectly straight. Repeat this operation for the other two fins. Do not set the rocket on its fins while the glue is wet. (See fig. 4)

☐ (5) Hollowing the nose cone will add about 20 feet to the altitude the Streak can reach with a 1/2A engine. Split the cone in half as shown. Carve the insides from the pieces with a knife or gouge. Glue the halves of the cone back together and let them dry. Apply glue to the tape strips on the inside of the body at the front. Slide the cone into the tube so it is firmly in place.

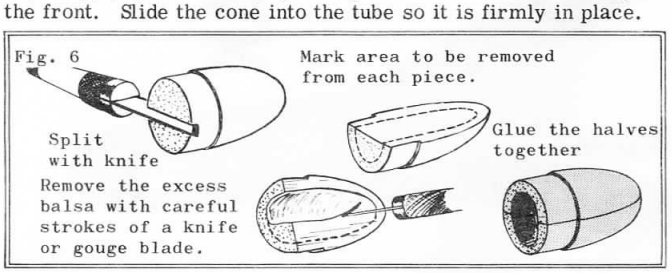
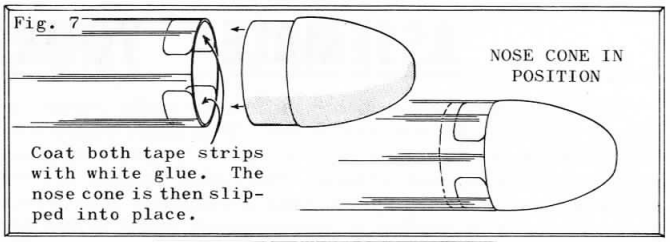
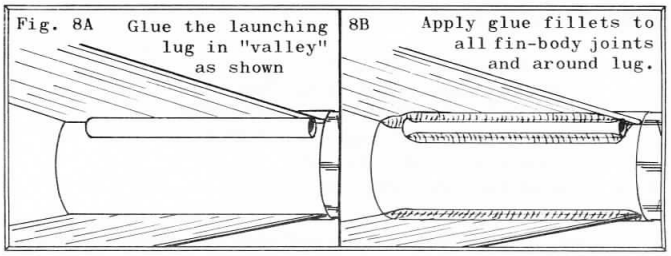


Fig. 6
Mark area to be removed from each piece.
Split with knife
Glue the halves together
Remove the excess balsa with careful strokes of a knife or gouge blade.



Both Versions

☐ (6) Glue the launching lug to the body tube in the corner between a fin and the tube as in fig. 8A. Apply a glue fillet to the launching lug and to the fin-body joints (fig. 8B). Wipe off all excess glue, leaving only enough to form a smooth fillet.



Countdown Checklist

☐ -12- Select an engine. Use a 1/4A3-4 for the first flight. Larger engines, such as the 1/2A6-4, A5-4, A8-5, B6-6 or C6-7 may be used, but the rocket is apt to fly out of sight. Install an electrical igniter in the engine as directed in the engine instructions accompanying the engine.

☐ -11- Wrap just enough tape around the rear of the engine to hold it in place in the body of the rocket. Insert the engine into the model so the front of the engine rests against the rear of the nose cone.

☐ -10- Remove the safety interlock or key from the launch control panel. (If a simple spring switch is used, install the protector on the switch to separate the contacts.) Carry the key or interlock on the person of the launch control officer.

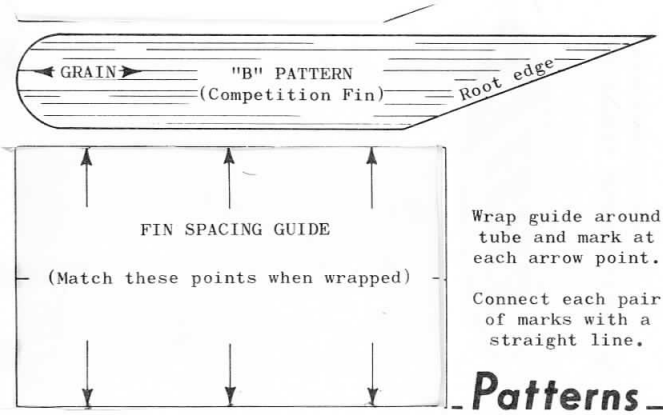
☐ -9- Place the rocket on the launcher. Check to be sure the panel is disarmed. Clean the micro-clips and attach them to the igniter.

☐ -8- Clear the launch area, alert the recovery crew and the trackers.

☐ -7- Check for low flying aircraft and unauthorized persons in the recovery area.

☐ -6- Arm the launch panel.

☐ -5- ☐ -4- ☐ -3- ☐ -2- ☐ -1- LAUNCH!


GRAIN
"B" PATTERN
(Competition Fin)
Root edge
FIN SPACING GUIDE
(Match these points when wrapped)
Wrap guide around tube and mark at each arrow point.
Connect each pair of marks with a straight line.

Patterns